

REMARKS

Reconsideration of the present application is respectfully requested. Claims 1, 4, 6 and 9 are amended to indicate that the thickness of the recording film of each of the first and second information-recording layers is equal to or greater than 6 nm, and equal to or smaller than 13 nm. Support can be found in the specification at page 12, lines 3-4 (“each of the recording films 13 was 8 nm in thickness.”) With this amendment, the invention is claimed with greater particularity, accounting for what the applicant regards as the invention. Previously, the claim indicated that the thickness of the recording film is equal to or greater than 6 nm, and equal to or smaller than 13 nm.

With this amendment, the rejection of claim 4 and 9 under § 103, based on the combined teachings of Seo in view of Ogawa appear to be overcome, as Ogawa teaches a dual layer recording disc wherein the recording mediums are 11 and 37 nm in thickness.

The examiner maintains the rejections of the claims under §103, based on Seo in view of Bechevet, Seo in view of Rijpers, and Seo in view of Ogawa.

Having carefully considered the specification, claims and references under consideration here, applicants believe that the examiner’s conclusion that the claims are unpatentable over Seo in view of Bechevet, and Seo in view of the other secondary references mentioned above, is incorrect. Specifically, in view of the experimental results provided for in the specification, it appears that the C/N ratios obtained with thin films (i.e., 6 to 13 nm) optical recording mediums, having the specific compositions of Ge, Te, Sb, and In, are not predictable, as demonstrated by the unexpected results embodied in the data reported in the present specification. In fact, it is evident from the teachings in the specification that a particular proportional range of Ge, Te, Sb and In is critical for realizing the improved C/N

ratios, the range being defined in the claims as having a number value between 0.04 and 0.3 (inclusive at both ends), and x having a number value between 4 and 8 (also inclusive at both ends).

As evidenced by the experimental data regarding embodiment 1, where the recording film is 8 nm, C/N values when y is within the aforementioned range, a high erasing rate of 25 db is reported. Note that when y is outside of the range, i.e. $y = 0.02$, the erasing rate drops substantially. (See specification at page 13, table 1.)

Furthermore, regarding embodiment 2, where the recording film was also 8 nm thick, high C/N values result when $X \geq 4$. See table 2 at page 14 of the specification. However, as x increases, laser power for recording also increases, which as a result in determination of laser quality. Thus, as low recording power is preferred, and power increases substantially when $X > 8$, as shown in Table 2, it is apparent that optimum results are obtained when $X \leq 8$.

Further, the specification demonstrates that the cross erasing values remain favorable over substantially the entire claimed range of y , where I_n substitutes for a portion of the S_b . See table 5, page 20 of the present specification.

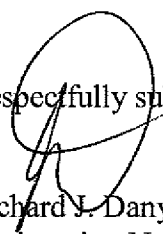
Thus, it is evident that the applicants, who disclose and claim an optical recording medium that is a combination of thin film mediums (6 nm to 13 nm) which performance properties are not predictable upon consideration the state of the art. Further, not only are the results attained by the claimed invention unpredictable, such results evidence an important and significant improvement that dissipates outside the claimed ranges for x and y . The examiner should consider that unpatentability based on overlapping ranges is overcome

where the applicant shows criticality of the claimed range. "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims....In such a situation, applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP §716.02 - §716.02(g) for a discussion of criticality and unexpected results.

Such a showing has been made here, as evidenced by the examples of the specification, where it is shown that for thin optical recording mediums, C/N drops off dramatically just beyond the parameters of the claimed range. In the applicant's view, patentability over the combined teachings of Seo in view of Bechevet, Seo in view of Rijpers, and Seo in view of Ogawa is established based on the demonstration of the criticality of the range.

Wherefore, based upon the foregoing, it is submitted that the present application is in condition of allowance, and a relatively early reply would be greatly appreciated.

Respectfully submitted,



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